ABSTRACT OF THE DISCLOSURE

An entirely passive all-optical device, referred to as an optical hard limiter, consists of alternating layers of materials having oppositely signed Kerr coefficients and substantially different linear indices of refraction, wherein the higher linear index material has the negative Kerr coefficient and the lower linear index material has the positive Kerr coefficient. The optical device has two distinct transmittance curves. Various optical devices and systems can be built from such optical hard limiters.